

**OBJECTIVE:** To characterize MAAE related to CVC replacement or placement among hospitalized Medicare surgical patients. **METHODS:** The Centers for Medicare and Medicaid Services sponsored identification and abstraction of the records for 40,620 hospitalizations of Medicare beneficiaries. Different simple random sampling fractions were used for each of the 50 states. For patients undergoing surgery in the operating room, details about each CVC (re-)placed during the hospitalization, and related non-infectious adverse events, were noted. **RESULTS:** Among 40,620 sample hospitalizations, 7044 CVCs were (re-)placed during 4889 surgical hospitalizations (mean length of stay 10.4 d [95% CI: 9.7–11.2]); among these, there were 159 MAAEs among 130 hospitalizations (mean length of stay 20.1 d [95% CI: 15.8–24.5]). The proportion of MAAEs per catheter (re-)placement was 2.3% (95% CI: 1.9%–2.6%) and the proportion of stays where a CVC was (re-)placed that had a CVC-related MAAE was 2.7% (95% CI: 2.2%–3.2%). Among patients who had length of stay up to 12 days and a CVC (re-)placement, MAAE was associated with increased in-hospital mortality (OR = 2.88, 95% CI: 1.53–5.43). Among those with CVCs (re-)placed, MAAE occurrence was unrelated to age. The most common CVC (re-)placement sites were internal jugular (40%) and subclavian veins (25%). The most common specified CVC types were PICCs (19%) and pulmonary artery catheters (16%). The most common hospital locations for (re-)placement were operating rooms (35%) and critical care units (17%). Most (72%) of the stays with CVC (re-)placement had just 1; 20% had 2 CVC (re-)placements. The most common MAAEs were misplacement (22%), thrombosis or embolism (18%), coiling or kinking (10%), and pneumothorax (8%). **CONCLUSIONS:** Among Medicare surgical inpatients, the rate of mechanical or allergic adverse events per catheter was approximately 2%. Incomplete documentation was a barrier to studying specific types of CVCs in relation to MAAEs and their risk factors.

## PCV46

#### EXPLORATION OF HIGHLY ELEVATED CREATININE KINASE RESULTS AND ASSOCIATED CHOLESTEROL THERAPY IN A LARGE COMMERCIAL HEALTH PLAN

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**OBJECTIVE:** The use of statins has been associated with risk for myotoxicity. Myopathy, defined as creatine kinase (CK) elevation greater than 10 times the upper limit of normal (ULN), occurs in 0.1–0.5% of statin users. This study describes elevated CK levels in an HMO population on cholesterol lowering therapy. **METHODS:** All subjects with a valid CK result during January 1 to December 31, 2001 were studied. Pharmacy claims data were linked to the laboratory results. A highly elevated result was defined as CK at least 10 ULN. **RESULTS:** A search of laboratory data identified 13,624 subjects with valid CK results. Most subjects had only one result (n = 10,301, 76%). Seventy-six subjects (0.6%) had a highly elevated CK result. Forty-one percent of all subjects (n = 5530) filled prescriptions for statins only, 400 (3%) filled prescriptions for non-statin cholesterol lowering therapy only, and 1473 (11%) filled prescriptions for both types of cholesterol lowering medications. Highly elevated CK results were found among 0.3% (n = 14) of statin only subjects, 0.5% (n = 2) of non-statin therapy only subjects and 0.6% (n = 9) of subjects with both medications. Of subjects with no cholesterol therapy, 0.8% (n = 53 of 6621) had a highly elevated CK result. **CONCLUSIONS:** We found a low rate of highly elevated CK results among those for whom results were

available. The rate of highly elevated CK was higher among those with non-statin cholesterol therapy or combination therapy compared to those with statin therapy alone. Despite the low occurrence of highly elevated results, we found that a large percentage of those tested were statin users. The low incidence of highly elevated CK among monitored statin users raises questions regarding the most effective strategy for identifying patients at risk for myotoxicity.

## PCV47

#### THE NATIONAL ANTICOAGULATION BENCHMARK AND OUTCOMES REPORT (NABORT™): EVIDENCE OF A SIGNIFICANT DIFFERENCE BETWEEN GUIDELINES AND ACTUAL PRACTICE

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**OBJECTIVE:** To assess patient characteristics, risk factors and antithrombotic treatment of atrial fibrillation (AF), venous thromboembolism (VTE), acute myocardial infarction (AMI), and prophylaxis in orthopedic surgery (OS) in patients enrolled in a national multicenter anticoagulation database. **METHODS:** Data was retrospectively collected from hospital inpatient records at 38 US hospitals. Patients treated from July 2000–June 2003 with an ICD-9-CM or procedure code for AF, pulmonary embolus (PE), DVT, pregnancy related PE or DVT, AMI, total knee hip or knee replacement, and hip fracture surgery were randomly selected. Patients under 18 years of age, and those admitted from or discharged to another hospital were excluded. Clinical characteristics and anticoagulation management according to guidelines were analyzed. **RESULTS:** A total of 3778 patients were included (945 AF, 939 VTE, 966 AMI, and OS). Mean age was 66.1 years with 53.3% male and 46.7% female. Comorbidities included hypertension (59.9%), coronary artery disease (35.5%), diabetes (21.5%), and malignancy (17.3%). Surprisingly only 54.7% of AF patients with high stroke-risk received warfarin and 20.6% received no treatment. Only 50.6% of VTE patients had INR  $\geq$  2.0 two consecutive days prior to discontinuing heparin. Only 60.5% of those without a therapeutic INR were discharged on bridge therapy. Length of hospitalization for bridged patients was significantly less than those discharged on chronic warfarin alone (4.0 vs. 8.1 days) (P < 0.001). Only 75.5% of AMI patients received aspirin on arrival to the hospital, although 88% were discharged on aspirin and/or warfarin. Only 85.6% of the OS population received prophylaxis with heparin or LMWH, the remaining received no anticoagulation. **CONCLUSIONS:** These results suggest that evidence-based antithrombotic guidelines are not being consistently followed. Further evaluation of antithrombotic practices in those sites with the highest and lowest performance is warranted. It is hoped that this database will help demonstrate gaps between guidelines and actual practice.

## PCV48

#### OBESITY AMONG HIGH SCHOOL STUDENT AND CONTRIBUTING FACTORS

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**OBJECTIVE:** The basis of this study is to explore the different contributing factors that affect excess weight gain among adolescents. The different attributes that will be reviewed include: the various genetic disorders, nutrition, food industry, physical activity, sedentary activities, and the assortment of methods used to measure to weight and body composition. **METHODS:** The

design of this study is a cross sectional study using secondary data. The sampling frame will include high school students. The method of sample selection used is the clustering sampling method. The unit of analysis is at the individual level. The study population is high school students. The dependent variable is weight and independent variables are: height, diet, nutrition, exercising, age, sex, race and self-perception. **RESULTS:** The model was very representational of the study population  $r^2 = 0.584$ . The statistical significance level was 0.05 and many variables (Height, Gender, Ethnicity, Age, etc.) proved to have a strong significant affect on weight (Beta was also used). **CONCLUSIONS:** The limitation of the study is that the survey fails to ask any question regarding genetic disorders that influence excessive weight gain, obesity. This information would be formable in trying to treat adolescents who currently suffer from genetic disorders. Also this would provide a good estimate of the percentage of young people (by ethnicity) who are affected. Another survey is recommended; that ask an assortment of questions pertaining to the daily habits of adolescents, a social behavioral study. The information could aid in the development of a better behavioral treatment for children in accordance to their life style. The Youth Risk Behavioral Survey needs to be modified so that it is more inclusive. The survey should be translated into other languages and made available for students who are not fluent in comprehending English. Non-English speaking children do gain weight as well.

PCV49

#### **DOES THE RATE OF MEDICARE MANAGED-CARE PENETRATION AFFECT AVAILABILITY OF RESOURCES FOR HEART FAILURE TREATMENT?**

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**OBJECTIVES:** The HF-ACTION trial evaluates the effectiveness of exercise as an intervention for heart failure patients. To assess generalizability of study findings, we included a survey of participating site characteristics as part of the study. We hypothesized that rates of Medicare managed care penetration would influence site heart failure care strategies. **METHODS:** Survey items were developed based on a literature review and clinicians' input. Sites were divided into high- and low-penetration groups according to their counties' rates of Medicare managed care penetration. Rates were obtained from the Centers for Medicare and Medicaid Services, and high- and low-penetration categories were delineated by the sample median. Simple statistics were used to describe the sample. Wilcoxon rank-sums and  $\chi^2$  tests were used to test for differences between areas of high and low managed care penetration. **RESULTS:** We received 47 of 50 surveys, a response rate of 94%. We found considerable variation in the availability of certain resources between areas of low and high managed care penetration. Institutions located in high-penetration areas were more likely than those in low-penetration areas to treat heart failure outpatients in geriatric clinics (100% vs. 0%,  $p = 0.014$ ), to have IV diuretics available in clinic (100% vs. 80%,  $p = 0.049$ ) and to use clinics for acute care (40% vs. 11%,  $p = 0.044$ ). Availability of heart failure service (96% vs. 79%,  $p = 0.057$ ), availability of nutritionist in clinic (45% vs. 74%,  $p = 0.069$ ) and use of ER for acute care episodes (85% vs. 61%,  $p = 0.095$ ) also varied by degree of managed care penetration. Use of BNP blood test did not vary significantly in inpatient (high—39% vs. low—58%,  $p = 0.210$ ) or outpatient settings (50% vs. 47%,  $p = 0.860$ ). **CONCLUSIONS:** Our assessment in a clinical trial setting suggests that available resources vary by degree of managed care penetration. This

variability should be considered when analyzing the HF-ACTION data as it could affect patient care and outcomes.

PCV50

#### **GASTRIC BYPASS SURGERY—AN OVERVIEW**

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**OBJECTIVE:** Evaluating gastric bypass surgery in obese patients. **METHODS:** From March 1999 to December 2002, 106 obese patients underwent gastric bypass operations by a single surgeon in a tertiary care hospital in the Midwest. The data is extracted from the clinical charts and evaluated statistically using SPSS software. The relationship between body mass index (BMI) of patients, type of operation performed, operating time, length of stay (LOS) in the hospital, presence of co-morbidities and payer type are analyzed. **RESULTS:** Fifty-six and 51 patients underwent open and laparoscopic bypass surgeries respectively. The mean BMI is 53.96 with minimum of 36.1 and maximum of 85.2 with the mean overall LOS being 4.22 days with minimum of 2 and maximum 28 days. The mean LOS for open and laparoscopic gastric bypass surgery is 5 and 3 days respectively. The mean operating time for the open and laparoscopic methods are 165 and 175 minutes respectively. LOS is positively correlated with BMI ( $p < 0.05$ ,  $r = 0.248$ ), the number of pre-existing medical conditions ( $p < 0.05$ ,  $r = 0.218$ ), open surgery ( $p < 0.01$ ,  $r = 0.323$ ) but negatively correlated with laparoscopic surgery ( $p < 0.01$ ,  $r = -0.306$ ) while intensive care usage is positively correlated with BMI and open surgery ( $p < 0.01$ ,  $r = 0.350$  and  $0.250$ ) but is negatively correlated with laparoscopic procedures ( $p < 0.01$ ,  $r = -0.266$ ). Pulse rates greater than 110/minute on second and third post-operative days is associated with total operating time ( $p < 0.01$ ,  $r = 0.370$ ) and with post-operative leak from anastomosis on first and third post-operative days ( $p < 0.05$  and  $0.01$ ,  $r = 0.228$  and  $0.272$ ) respectively. BMI is also positively associated with public aid patients but is negatively associated with private payers. **CONCLUSION:** Being an increasingly popular surgery for obese people, gastric bypass procedures need to be carefully evaluated long-term for optimum clinical and economic outcomes in view of the above findings.

PCV51

#### **RETROSPECTIVE EVALUATION OF UTILIZATION PATTERNS OF BETA-BLOCKER THERAPY IN CONGESTIVE HEART FAILURE PATIENTS IN A MANAGED CARE ENVIRONMENT**

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**OBJECTIVE:** Beta-blocker utilization in patients with mild to moderate congestive heart failure (CHF) substantially improves left ventricular ejection fraction and patient symptoms and reduces overall mortality. Carvedilol and extended-release metoprolol succinate are the only beta-blocking agents currently indicated in the US for CHF patients. Both agents have shown similar risk reduction in overall and cause-specific mortality; however, no comparative outcomes data for the two agents are available. This study identifies current utilization patterns (agent/dosing regimens) of beta-blocker therapy in the CHF population at Scott & White Health Plan. **METHODS:** Health plan pharmacy claims data were retrospectively reviewed for calendar year 2002 for beta-blocker prescribing patterns for CHF patients (identified by ICD-9 codes). Specifically, pharmacy claims were evaluated for inclusion of beta-blockers as standard therapy for CHF, use of FDA-approved versus off-label use of beta-blockers for CHF, and use of recommended doses. **RESULTS:** Approximately 1700 health plan CHF patients were identified; 40% of those